



WATER RESOURCES RESEARCH GRANT PROPOSAL

Title: Site-Specific Management Strategies for Improving Nitrogen Use Efficiency Under Furrow Irrigation

DURATION: September 1997 to September 1999

FEDERAL FUNDS REQUESTED: \$60,000

NON-FEDERAL MATCHING: \$185,502

PRINCIPLE INVESTIGATOR:

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Co-Investigators:

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Congressional District: 03

STATEMENT OF CRITICAL REGIONAL AND STATE WATER PROBLEMS:

Current best management practices (BMPs) for nitrogen and irrigation used by most producers and adopted by Natural Resource Districts in control areas in Nebraska have been developed primarily from University of Nebraska research. Additional research is required to provide next generation BMPs which will continue to reduce nitrate-N loss. Although there has been a transition to sprinkler irrigation during the past 25 years in the central Great Plains, large areas of cropland are still furrow irrigated (50% in Nebraska). Changing to sprinkler irrigation is expensive for producers and offers no immediate economic returns other than labor savings especially for irrigated land in river valleys. Furrow irrigation will continue to be a major factor influencing N management and leaching although the impact of alternate row irrigation and N application has not been thoroughly investigated.